

```
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEEE SSSSSSSS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MM MM PP PP LL EE SS
EE XX XX AA AA MM MM PP PP LL EE SS
EEEEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSS
EEEEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSS
EEEEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
EE XX XX AA AA MM MM PP LL EE SS
EE XX XX AA AA MM MM PP LL EE SS
EEEEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS
```

M	M	AAA	III	L	CCCC	000	M	M	PPPP	RRRR	EEEEEE	SSSS	SSSS	
M	M	AAA	III	L	CCCC	000	M	M	PPPP	RRRR	EEEEEE	SSSS	SSSS	
MM	MM	A	I	L	C	O	MM	MM	P	R	E	S	S	
MM	MM	A	I	L	C	O	MM	MM	P	R	E	S	S	
MM	M	A	I	L	C	O	M	M	P	R	E	S	S	
MM	M	A	I	L	C	O	M	M	PPPP	RRRR	EEEE	SSS	SSS	
MM	M	A	I	L	C	O	M	M	PPPP	RRRR	EEEE	SSS	SSS	
MM	M	AAAAA	I	L	C	O	M	M	P	R	E	S	S	
MM	M	AAAAA	I	L	C	O	M	M	P	R	E	S	S	
MM	M	A	I	L	C	O	M	M	P	R	E	S	S	
MM	M	A	I	L	C	O	M	M	P	R	E	S	S	
MM	M	A	III	L	C	O	M	M	P	R	E	S	S	
MM	M	A	III	LLLLL	CCCC	000	M	M	P	R	EEEEEE	SSSS	SSSS	..
MM	M	A	III	LLLLL	CCCC	000	M	M	P	R	EEEEEE	SSSS	SSSS	..
MM	M	A	III	LLLLL	CCCC	000	M	M	P	R	EEEEEE	SSSS	SSSS	..
MM	M	A	III	LLLLL	CCCC	000	M	M	P	R	EEEEEE	SSSS	SSSS	..

```

      CCCC      000      M      M
      CCCC      000      M      M
C      0      0      MM      MM
C      0      0      MM      MM
C      0      0      M      M
C      0      0      M      M
C      0      0      M      M
C      0      0      M      M
C      0      0      M      M
C      0      0      M      M
C      0      0      M      M
C      0      0      M      M
      CCCC      000      M      M
      CCCC      000      M      M

```



ABSTRACT: Sample command procedure to compress  
MAIL ISAM files for a single user  
or list of users.

**INPUT:** Input can be specified in two forms:

- o Username whose default MAIL ISAM file is to be compressed.
- o @FILENAME where FILENAME is the file-spec of a file which contains a list of usernames whose default MAIL ISAM files are to be compressed.

Either form of input may be specified on the command line. However, if 'aFILENAME' is specified on the command line it MUST be enclosed in double quotes.

OUTPUT: New default MAIL ISAM file of a smaller size.

IMPLICIT OUTPUT:  
Old default MAIL ISAM file is deleted.

```
set      = "SET"  
if       = "IF"  
open    = "OPEN"  
goto    = "GOTO"  
read    = "READ"  
write   = "WRITE"  
convert = "CONVERT"  
delete  = "DELETE"  
close   = "CLOSE"  
exit    = "EXIT"  
no_compression_needed_size = 40  
time_stamp = f$cvtime7("", "COMPARISON", "DATETIME")
```



```

$      old_verify = f$verify()
$      set noon
$      required_privileges = 'BYPASS,EXQUOTA'
$      prev_privs = f$setprv(required_privileges)
$      if .not. f$privilege(required_privileges) then goto no_privileges
$      def dev_dir = f$environment('DEFAULT')
$      open /read /share uaf sys$system:sysuaf.dat
$      open /read /share vmai sys$system:vmsmail.dat
$      cmd_file = 0
$      param_flag = 0
$      if f$length(p1) .eq. 0 then goto get_username
$      username = p1
$      param_flag = 1
$      goto T0$

:
: Prompt for username
:
$ get_username:
$      open_delimit = '['
$      close_delimit = ']'
$      dir_close_delimit = ']'
$      if cmd_file then goto 20$
$      if param_flag then goto exit_procedure
$      read /end=exit_procedure /prompt='Username: ' sys$command username
10$:
$      username = f$edit(username,'COLLAPSE,UNCOMMENT,UPCASE')
$      if f$length(username) .eq. 0 then goto get_username
$      if f$extract(0,1,username) .nes. 'a' then goto 100$
$      cmd_file = 1
$      username = f$extract(1,99,username)
$      open /read /error=cant_open cmdf 'username'
20$:
$      read /end=cmd_file_eof /prompt='USERNAME> ' cmdf username
$      username = f$edit(username,'COLLAPSE,UNCOMMENT,UPCASE')
$      if f$length(username) .eq. 0 then goto 10$

:
: Get mail directory for USERNAME
:
$ 100$:
$      read /nolock /error=no user /key='''username''' uaf uaf_record
$      dir_len = f$cvui(32*8,8,uaf_record)
$      dir_string = f$extract(149,dir_len,uaf_record)
$      temp_string = f$edit(dir_string,'COLLAPSE')
$      if temp_string .eqs. '' then goto bad_spec
$      if f$locate('[',dir_string) .ne. dir_len then goto okay_delimit
$      dir_close_delimit = '>'
$ okay_delimit:
$      dir_string = dir_string - dir_close_delimit
$      dev_len = f$cvui(64*8,8,uaf_record)
$      dev_string = f$extract(117,dev_len-1,uaf_record)
$      temp_string = f$edit(dev_string,'COLLAPSE')
$      if temp_string .eqs. '' then goto bad_spec
$      vmai_record = ''
$      mail = ''
$      read /nolock /error=110$ /key='''username''' vmai vmai_record
$ 110$:

```

```

$ if f$length(vmai_record) .eq. 0 then goto 120$
$ mail_len = f$cvui(65*8,8,vmai_record)
$ personal_len = f$cvui(66*8,8,vmai_record)
$ forward_len = f$cvui(67*8,8,vmai_record)
$ mail = f$extract(68+personal_len+forward_len,mail_len,vmai_record)
$ if f$locate('L',mail) .ne. mail_len then goto 120$
$ open_delimit = "<"
$ close_delimit = ">"
$ 120$:
$ temp = ""
$ if mail .nes. "" then temp = mail - open_delimit - close_delimit
$ mail_dir = dev_string + dir_string + temp + dir_close_delimit
$ mail_dir = f$edit(mail_dir,"COLLAPSE")
$ write sys$output
$ write sys$output "Processing directory 'mail_dir' for user 'username'"
$
$ :
$ Compress mail file
$
$ set default 'mail_dir'
$ if f$search('MAIL.MAI') .eqs. "" then goto no_mail_file
$ create_time = f$file_attributes('MAIL.MAI',"CDT")
$ create_time = f$cvtime(create_time,"COMPARISON","DATETIME")
$ if create_time .gts. time_stamp then goto already_compressed
$ ! VERIFY THERE'S A MAIL.MAI FILE, THAT IT'S INDEXED WITH 2 KEYS.
$ ! CHECK TO SEE THAT DISK HAS ENOUGH SPACE FOR THE COMPRESS.
$
$ :
$ if (f$file_attributes('MAIL.MAI',"ORG") .nes. "IDX") .or. -
$ (f$file_attributes('MAIL.MAI',"NOK") .ne. 2) -
$ then goto not_mail_file
$ old_size = f$file_attributes('MAIL.MAI', 'ALQ')
$
$ ! VERIFY THAT MAIL.MAI IS LARGE ENOUGH TO WARRANT
$ ! COMPRESSION.
$ if old_size .lt. no_compression_needed_size then goto too_small
$ free_blks = f$getdvi("SYS$DISK","FREEBLOCKS")
$ if free_blks .lt. old_size * 3 then goto no_space
$ ! COMPRESS THE FILE, STOP IF ERROR.
$ ! DISPLAY OLD/NEW/RECLAIMED SIZES, DELETE OLD FILE, ENSURE CORRECT
$ ! FILE OWNERSHIP.
$
$ :
$ convert /fdl=sys$input mail.mai mail.mai
$
SYSTEM SOURCE VAX/VMS
FILE
ALLOCATION 34
BEST TRY CONTIGUOUS yes
BUCKET SIZE 5
CONTIGUOUS no
EXTENSION 15
GLOBAL_BUFFER_COUNT 0
ORGANIZATION indexed
PROTECTION (system:RW, owner:RW, group:, world:)

```



RECORD	BLOCK_SPAN	yes
	CARRIAGE_CONTROL	none
	FORMAT	variable
	SIZE	2048
AREA 0	ALLOCATION	20
	BUCKET_SIZE	5
	EXTENSION	15
AREA 1	ALLOCATION	6
	BUCKET_SIZE	5
	EXTENSION	5
AREA 2	ALLOCATION	8
	BUCKET_SIZE	3
	EXTENSION	3
KEY 0	CHANGES	no
	DATA_KEY_COMPRESSION	no
	DATA_RECORD_COMPRESSION	yes
	DATA_AREA	0
	DATA_FILL	100
	DUPLICATES	yes
	INDEX_AREA	1
	INDEX_COMPRESSION	no
	INDEX_FILL	100
	LEVELT_INDEX_AREA	1...
	NAME	
	NULL_KEY	no
	PROLOG	3
	SEGO_LENGTH	8
	SEGO_POSITION	0
	TYPE	bin8
KEY 1	CHANGES	yes
	DATA_KEY_COMPRESSION	yes
	DATA_AREA	2
	DATA_FILL	100
	DUPLICATES	yes
	INDEX_AREA	2
	INDEX_COMPRESSION	yes
	INDEX_FILL	100
	LEVELT_INDEX_AREA	2...
	NAME	
	NULL_KEY	yes
	NULL_VALUE	0
	SEGO_LENGTH	39
	SEGO_POSITION	9
	TYPE	string

```
$      if $status .ne. 1 then goto convert_error
$      new_size = f$file_attributes('MAIL.MAI;0', 'ALQ')
$      tmp = old_size - new_size
$      write sys$output "Old size = 'old_size' New size = 'new_size', -
$              reclaimed 'tmp' blocks"
$      delete MAIL.MAI;-1
$      set file/owner=parent MAIL.MAI
$ end_loop:
$      goto get_username
$ !
$ ! Exit command procedure
$ !
$ exit_procedure:
$      close /nolog uaf
$      close /nolog vmai
$      close /nolog cmdf
$      set default 'def_dev_dir'
$      prev_privs = f$setprv(prev_privs)
$      old_verify = f$verify(old_verify)
$      exit
$ !
$ ! Process errors
$ !
$ no_privileges:
$      write sys$output "Insufficient privileges"
$      write sys$output "Requires 'REQUIRED_PRIVILEGES,' privileges."
$      goto exit_procedure
$ no_mail_file:
$      write sys$output "No mail file for user 'username'"
$      goto get_username
$ not_mail_file:
$      write sys$output "File 'mail_dir'MAIL.MAI is not a mail file"
$      goto get_username
$ convert_error:
$      write sys$output "Error compressing 'mail_dir'MAIL.MAI ", -
$              "for user 'username'"
$      goto get_username
$ cmd_file_eof:
$      cmd_file = 0
$      close cmdf
$      goto get_username
$ no_user:
$      write sys$output "User 'username' not found in UAF"
$      goto get_username
$ bad_spec:
$      write sys$output "Bad directory specification for user 'username'"
$      goto get_username
$ no_space:
$      write sys$output "No space to compress file of 'old_size' blocks"
$      goto get_username
$ cant_open:
$      write sys$output "Can not open file 'username'."
$      cmd_file = 0
$      goto get_username
$ already_compressed:
$      write sys$output "MAIL.MAI already compressed"
```



```
$      goto get_username
$ too_small:
$      write sys$output 'MAIL.MAI too small to compress ('old_size' blocks).'
```

```
$      goto get_username
$ exit
```



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